Hubble Space Telescope

SCRIPT:

Forty feet long and 12 and a half tons, the Hubble Space Telescope is bigger than a school bus. Why did we go to all the time and trouble to put such a giant telescope in space? Well, from space, high above the clouds and fuzzy atmosphere of Earth, Hubble is showing us things we've never seen before…Razor-sharp images of galaxies from the other side of the Universe…The birth of new suns from gigantic columns of dust and gas…And even black holes, where parts of our Universe are disappearing.

To take these pictures, the Hubble telescope has to be rock steady. So how do you point a telescope that's floating around in space? The answer is in the stars...

Twenty million guide stars are loaded in the Hubble's memory. It finds and locks on a couple of guide stars to keep itself steady. Then it can zero in on a specific object anywhere in the sky and take a picture. The pointing system is so good, if Hubble was a golfer, it could sink a putt from 15-hundred miles away..!

The Hubble's pictures are beamed back to Earth through a series of relay stations. Every day, five whole sets of encyclopedias could be filled with the information it sends back to Earth.

And the name Hubble? That's Edwin Hubble, an American astronomer who discovered much of what we know about the Universe today. Edwin Hubble died in 1953, but he died knowing how much more there is for us to see.

Relevant NSES Standards

NSES Content Standard A: Understandings about scientific inquiry.
(Grades K-12) Using tools / technology to gather data.
NSES Content Standard D: Earth and space science.
(Grades K-4) Objects in the sky. Stars.
NSES Content Standard E: Abilities of technological design.
(Grades K-12) Identify a problem, create a solution. (Atmosphere distorts view.)
NSES Content Standard E: Understanding about science and technology.
(Grades K-8) Using technology to extend our senses.
(Grades 5-8) Technology provides better instruments for science.
(Grades 9-12) Science often advances with introduction of new technology.
NSES Content Standard F: Science in social perspectives.
(Grades 5-12) Science is an enterprise of society.
NSES Content Standard G: History and nature of science.
(Grades K-4) Deriving pleasure from science. (Using an orbiting observatory.)
(Grades 9-12) Science meets human aspirations (to understand the Universe).

Credits: Ray Villard, NASA Space Telescope Science Institute;
Kyle Herring, Johnson Space Center

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